

Application of: Kim, Hyeon Joon, et al.
Appl. No. 10/565,255
Page 2

IN THE CLAIMS:

Please cancel nonselected claims 9 - 16 as set forth in the complete claim listing below.

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Previously Presented) A film bulk acoustic wave device, comprising:

a substrate;

a substrate protective film formed on said substrate;

an acoustic reflective layer centrally forming a resonance region on the substrate

protective film;

an etch protecting film flatly formed on the acoustic reflective layer with silicon oxide or nitride in a thickness of hundreds of angstroms (Å);

a thermal oxidation film forming an electrode region outside the resonance region on the substrate protective film; and

a lower electrode partially formed on the resonance region and the electrode region and having a sloped distal end portion toward the resonance region of the thermal oxidation film;

a piezoelectric thin film on the lower electrode; and

an upper electrode on the piezoelectric thin film.

2. (Canceled)

3. (Previously Presented) A film bulk acoustic wave device, comprising:

a silicon substrate;

an oxidation protective film or etch protecting film formed in a pattern of dividing a

Application of: Kim, Hyeong Joon, *et al.*
Appln. No. 10/565,255
Page 3

resonance region to form an acoustic reflective layer on the silicon substrate;

a thermal oxidation film formed by partially thermally oxidizing the silicon substrate in an electrode region where the oxidation protective film or etch protecting film is not formed, said thermal oxidation film being sloped toward the resonance region;

and a lower electrode, a piezoelectric thin film and an upper electrode on the thermal oxidation film.

4. (Previously Presented) The device as claimed in any one of claims 1 or 3, wherein after the thermal oxidation film is formed, the oxidation protective film is removed and the etch protecting film is formed of silicon oxide, nitride or the like in a thickness of hundreds to thousands of angstroms (Å) on the sacrificial layer from which the oxidation protective film is removed.

5. (Previously Presented) The device as claimed in any one of claims 1 or 3, wherein after the thermal oxidation film is formed, the oxidation protective film is used as the etch protecting film without being removed.

6. (Previously Presented) The device as claimed in any one of claims 1 or 3, wherein the thermal oxidation film is grown in a portion having no oxidation protective film, is not grown in a center portion where the oxidation protective film remains, and is formed in an inclined manner in an interface portion thereof, whereby the resonance region and the electrode region are interconnected with each other in a gentle slope.

Application of: Kim, Hyeong Joon, et al.
Appln. No. 10/565,255
Page 4

7. (Previously Presented) The device as claimed in claim 1 wherein the lower electrode or upper electrode comprises:

a first electrode layer formed by depositing a conductive material having less acoustic loss and good electrical conductivity in a thickness of thousands of angstroms (.ANG.); and

a second electrode layer formed by depositing a noble metal material having low electrical resistance and thus less loss due to the resistance in a thickness of hundreds of angstroms (.ANG.) or less on the first electrode layer to prevent the first electrode layer from being oxidized.

8. (Original) The device as claimed in claim 7, wherein the first electrode layer is formed of molybdenum, aluminum, silver or copper, and the second electrode layer is formed of platinum or gold.

9-16. (Canceled)